



Dworshak Fisheries Complex

Monthly Activity Report



January Highlights

Dworshak

SST BY 17 - 801,720

SST BY 16 - 2,436,483

SCS BY16 - 2,561,104

SCS BY15 - 1,505,142

Kooskia

BY 16 Chinook - 772,045

BY 15 Chinook - 692,371

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U.S. Fish & Wildlife Service, Region 1 Managers Message - Steve Rodgers

Meet Chris Griffith

Chris was born in the small port town of Elizabeth City, North Carolina. Shortly thereafter, he moved to Germany where he spent six years of his childhood before moving back to Hinesville, Georgia where he was greeted by the howling winds and incessant rains of Hurricane Hugo. His father was in the Army, so he moved around the country before ending up at his hometown after his father retired from the military. Chris spent his high school years in Elizabeth City but knew that there was more in the world that he had to see and do. His time in Germany left him with an insatiable desire to see the world.



Chris served in US Air Force as an enlisted aviator.

Following in his father's footsteps, Chris joined the Air Force a year after graduating from high school. He spent the next ten years as an enlisted aviator flying on surveillance aircraft. While enlisted, Chris found himself traveling to thirty countries spanning four continents. It was during those travels that his love for nature blossomed. He recalls a trip to Scotland that jump-started his desire to work outside and help conserve the beautiful lands that stretch across the globe.

Chris spent two weeks traveling across the Scottish countryside, breathing in the clean, fresh air and imbibing on the endless views that the mountain tops provided. One island in particular, The Isle of Skye, left an impression that would last a lifetime. From atop Old Man Storr, Chris could see the entire island with its emerald green mountains that stretched for miles. The vast countryside relinquished his worries and provided a calmness that he hadn't felt in years. This single moment would point his life in a new direction.



From atop Old Man Storr, Chris Griffith

Less than a year after his trip to Scotland, Chris separated from the Air Force and moved to Asheville, North Carolina to complete his undergraduate degree in ecology and environmental biology at the University of North Carolina. Asheville is situated in the Appalachian Mountains, a biotic hotspot, and provided the perfect classroom for studying plants and wildlife. Most notably, Chris spent several years helping with a fish reintroduction program, worked with the Eastern Band of the Cherokee Nation tagging and tracking the movements of an endemic fish species, Sicklefin Redhorse, of the Blue Ridge Mountains, and interned with a local non-profit organization that sampled local streams for aquatic macro invertebrates and conducted chemical analysis of streams throughout the region.



Sampling macro invertebrates, Blue Ridge Mtns.

After graduation, Chris spent the next couple months traveling the western states. He spent much of his life traveling around the world but realized that much of the United States was still unknown to him. Little did he know that his westward expedition was just beginning. He accepted a temporary job as a biological technician at the Idaho Fish and Wildlife Conservation Office. This temporary job has since become a permanent position and continues to accommodate his endless appetite for travel and knowledge.



Credit: Olson, FWS

Jeremy Sommer and Dan Peters rinse females before harvesting their eggs.



Credit: Olson, FWS

Angel Feldmann adds milt to eggs. The next generation of steelhead begins!



Credit: Olson, FWS

After adding saline and then a final rinse, Aidan Frye pours the fertilized eggs into Heath trays for several weeks of incubation.

Dworshak Hatchery Production - Izbicki, Sommer, Bisbee

Dworshak Stock - Spring Chinook Salmon (SCS)

Brood Year 2015 (BY15)

By the end of the month there were 1,505,142 BY 15 SCS fry in 10 raceways and 10 Burrow's Ponds. Fry averaged 29.8 FPP (fish per pound). Water temperature dropped over the month from 45.3 at the beginning of the month down to 41.7 at the end of the month. Mortality continues to drop with 2,241 fish or 0.2% mortality. Many of the mortalities in January were small pinheaded fish that are by-products of the *Phoma* outbreak. PIT tagging was completed from 01/04-01/08 with no issues. Very cold weather caused the vacuum degassers to freeze up so they have been taken off line until the weather warms. Overall, the Chinook are looking good and on track to make size at release.

Brood Year 2016 (BY16)

Brood year 2016 eggs hatched in January. As of the end of the month fry were on chilled water at an average of 37 degrees. We currently have 2,561,104 sac fry on station. Fry will remain in incubation on chilled water until they are ponded in early May.

Coho Salmon (COS)

Brood Year 2015 (BY 15)

No report submitted.

Brood Year 2016

No report submitted.

Dworshak Stock- Summer Steelhead (SST)

Brood Year 2016 (BY 16)

At the end of January, there were 2,436,483 fish from takes 1-10 in System 1, 2, & 3 averaging 8.9 fpp (range is 6.1-15.7 fpp). Mortality in the Systems increased this month to 0.3%. The increased mortality is mainly from pinhead dropouts and fallout from November's power outages. The low oxygen events made the fish more susceptible to external parasites and we have had to do numerous formalin treatments in both December and January. Every Burrow's Pond in system 2 and system 3 has been treated with formalin to knock down *Trichodina* &/or treat legions and fungus caused by *Trichodina*. Fish health checked a sample of the ponds before and after treatment and found treatments to be effective and hopefully we are on the tail end of the stress related mortality. All takes all takes are being fed Rangan floating 3.2 mm feed on demand feeders. Water temperature dropped to 41.7 degrees so fish have slowed down a little but there are definitely on track to make size at release.

Brood Year 2017 (BY 17)

Spawning season has begun!! We spawned BY 2017 Take 1 on January 10th and Take 2

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Dworshak Hatchery Production

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Dworshak Stock- Summer Steelhead (SST)- Brood Year 2017

on January 24th completing our early egg takes. We spawned 90 females and 51 males during take 1 and 30 females with 25 males during take 2. Males 85 cm and larger are crossed with up to three different females to enhance the three ocean component of the run.

Takes 1 and 2 eggs are incubating under chilled water and eye up is scheduled for mid-February. Fry will be ponded in the Nursery mid-March. Air spawning will begin early February.

SUMMARY

Table 1. Total Production - Fish on Station January 31, 2017.

SP	BY	Location	Number	Wt (lbs)	FPP	L in	L mm
SCS BY 16	16	Incubation (Eggs)	2,561,104				
SCS BY 15	15	Raceways/Sys III	1,505,142	50,513	30	4.8	122
SST BY 17	17	Incubation (Eggs)	801,720				
SST BY 16	16	Systems	2,436,483	292,489	8	7.0	178
COS BY 16	16	Incubation (Eggs)	NR*				
COS BY 15	15	System III	NR*				
Total Fish/Fry on Station EOM			7,304,449	343,002			

*NR is No Report

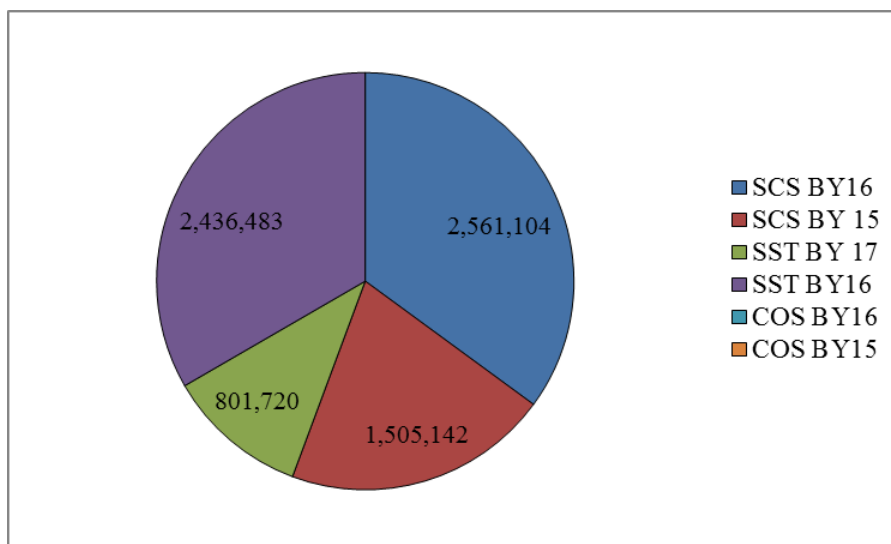
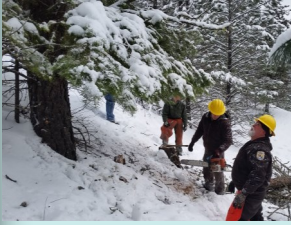


Figure 1. January 31, 2017 Total Fish/Eggs on Station.



Credit: Koehler, FWS

Field practicum! Rick King assesses his target during a 2-day chainsaw training course.



Credit: Koehler, FWS

The raceway sump was removed, upgraded, and reinstalled by the electrical team.



Credit: Olson, FWS

Kurt McCorkel in the hole making upgrades to the raceway sump as Jim Oatman rewires the control panel.

Dworshak NFH Meetings, Training and Conferences - Drobish

On January 17th, Steve Rodgers, Mike Tuell and Mark Drobish attended a meeting at the Idaho Fish and Game Regional Office in Lewiston, Idaho to discuss long-term planning for spring Chinook salmon harvest and production goals along with capabilities for production levels for the Clearwater River basin fish hatcheries.

The Corps Quarterly meeting was held on January 24th at the Dworshak Fisheries Complex. Walla Walla District and Dworshak Project staff met with Dworshak Fisheries Complex staff and Nez Perce Tribal Fisheries staff from Lapwai and discussed a variety of topics. The purpose of these quarterly meetings is to increase communication and coordination between agencies.

On January 31st, Dworshak Fisheries Complex staff participated in the Clearwater Annual Operating Planning (AOP) meeting at the Idaho Fish and Game Regional Office in Lewiston, Idaho. The AOP is transitioning to the Salmon River AOP format regarding documents; therefore, additional key coordination is taking place with all participants. The new format will streamline planning and reporting out and be standardized across the Salmon and Clearwater Rivers' programs.

DNFH Maintenance and Operations Activity Report - Koehler

January 2017

- Electrical in the raceway sump was removed and reinstalled properly with upgrades.
- The truck/trailer lift platform at the feed building was removed. The pit was filled with gravel and compacted. Re-bar was installed and poured with concrete.
- Winter 2017 took its toll on equipment. The hydraulic pump was replaced on the 1 ton dump with a rebuilt unit.
- Three members of the maintenance department attended 2 day chainsaw training.

Maintenance completed 35 PM work orders and 15 hand written requests from hatchery staff for the month of January, 2017.

Idaho Fish and Wildlife Conservation Office - Michael Murray

Project Leader

Steelhead monitoring programs, spawning protocols, and the general need to write down procedures and plans to promote effective communication were discussed with IDFG.

Together with Dworshak NFH leadership we planned to build on Regional Emergency Office Closure guidance to generate procedures specific to our station.

In support of US v Oregon, the steelhead and chinook HGMPs are being updated; led by the IFWCO with inputs from the NPT. The BA for FWS trust species will be written by a contractor for all programs and partners operating in the Clearwater basin.

Hatchery evaluation tasks conducted in the past were reviewed for cost and benefit. Some activities were eliminated due to high cost (staff time) and limited benefit or due to redundancy.

Data was input into the 2017 Annual Operating Plan and the annual meeting was attended.

The office is receiving new carpeting requiring a lot of sifting of old files, coordination, and furniture moving. The new flooring is a definite improvement.

Dworshak Complex Monitoring and Evaluation Activities

During the end of year QC, PTAGIS showed over 5k duplicates in the system from 2013. Corrected the PIT tag datasets from 2013 by removing duplicates found in QC.

Updated the historical spring Chinook salmon adult database tables and report to reflect 2016 returns to Dworshak, and then added the new report to the IFWCO website.

Assembled a PIT-tag reader and laptop in the spawning room. Production will now scan juvenile mortalities for tags. Procedures for running the PIT-tag equipment and P3 software were written, so production staff can efficiently scan for PIT tags from mortalities and troubleshoot any difficulties.

Continued work on FY16 and BY09 spring Chinook salmon reports and began working on the methods for the spring Chinook salmon annual reports.

Submitted FY16 spring Chinook salmon release info corrections to RMIS for update.

Swept systems I, II, and III for shed PIT tags.

Compiled coded-wire tag retrieval data for BY14 and BY15 at Kooskia NFH and submitted to Chris Sullivan at IDFG per request.

Coordinated with IDFG in Lewiston, ID for pick-up of 3,100 PIT tags to be used at Kooskia NFH tagging event.

Set up tagging trailer at Kooskia NFH and completed tagging of 8,000 spring chinook over two days. Two staff from Rivera's team helped and two staff from the IFWCO helped complete tagging.

Uploaded Kooskia NFH PIT tag files (7911 tagged fish) into PTAGIS

Attended pre-spawning meetings and participated in the first and second take of BY17 steelhead sessions of early

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Idaho Fish and Wildlife Conservation Office

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Credit: Murray IFWCO, FWS

The IFWCO battled unusually heavy snowfall and cold temperatures at Kooskia NFH to complete the 2017 PIT-tagging season.



Credit: Murray IFWCO, FWS

IFWCO and the Columbia River Fisheries Office joined efforts to complete the PIT-tagging of 8,000 spring chinook over two days!



Credit: Murray IFWCO, FWS

After it was all said and done, IFWCO loaded the Kooskia NFH PIT tag files into PTAGIS

returns to Dworshak NFH. Checked and collected all early returns with coded-wire tag data.

Updated Spawning Activity Report (SAR) to reflect numbers from Take 1 & 2, and uploaded data into FINS.

Created Excel file of all tagged fish at Dworshak by pond, used to keep running tab of PIT tagged fish for release numbers.

Built a database summarizing all PIT tagged fish at Dworshak by system, species, release, and take.

Uploaded Dworshak spring Chinook and summer Steelhead PIT tag data sets into PTAGIS. Contacted Brandon Chockley and Jerry McMann at Fish Passage Center to let them know data was uploaded for CSS and SMP studies.

Recreated and updated graphs showing current and historical trends associated with spring Chinook and Steelhead releases and returns.

Attended P4 training which is the new software for PIT tags, the software currently being used will eventually be phased out. The new software looks promising and much more powerful than the older software.

Downloaded and began testing FINS offline Beta to see if it would help save time during sorts/spawning at Dworshak NFH, also checking software for any bugs and submitting info to PSMFC.

Aquatic Conservation Activities

Completed FONS data entry for NFHAP projects.

Finalized FIS accomplishment reports from FY16 and partial FY17.

Worked on the Partners for Fish and Wildlife Accounting reports.

Listened in on the Project Leader Call.

Coordinated with Salmon School Garden and ordered pollinator seeds for garden, to be distributed to the public.

Completed technical reviews and provided comments on 16 proposals submitted for funding in Round #19 of the Pacific States Salmon Restoration Fund.

Coordinated with Idaho Fish and Game on lamprey assessment and regional implementation plans.

Participated in Bald Eagle surveys.

Worked to update and streamline old assessment templates.

Completed PL RIP Templates.

Worked on draft rip templates.

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Aquatic Conservation Activities

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Salmon River satellite office was affected by severe weather/flooding which impacted operations for January

Fall Chinook Salmon Research Activities

Continued to work on a review manuscript presently entitled “Upstream Migration and Spawning Success of Chinook Salmon in a Developed, Seasonally Warm River System” with staff of the USGS, Idaho Power Company, and NPT.

Began to purchase new beach seining equipment for use in 2017.

Provided input to NOAA fisheries with regard to revisions being made in the recovery plan.

Updated the FY17 BPA budget to include funding for PIT-tags.

Idaho Fish Health Center - Blair**January 2017****Dworshak NFH**

Steelhead juveniles: System 1 steelhead were examined on the 17th of Jan after a weekend where the system 1 degassers froze up due to cold weather conditions. TDG levels were not measured over the weekend. No gas bubbles were seen but low to moderate levels of external parasites were detected.

System 2 steelhead were examined on Jan. 23 for routine monitoring exam. Due to a small increase in mortality in the pond as compared to other ponds and low level necrosis in kidney imprint from one fish, samples were taken to check for the IHN virus.

In January a routine monitoring exam was conducted for System 3. Low levels of external parasites (many different types) were found during necropsy. As a result, the Dworshak production staff treated several ponds in System 3 with formalin. A “post-formalin treatment” examination was performed and no external parasites were found.

Steelhead Broodstock: Samples were collected from steelhead adults during spawning takes 1 and 2. Individual ovarian fluids from 30% of female fish spawned from each take were tested for IHNV. Milt from all males injected with GnRHa or used as controls was collected, measured and assessed for motility for evaluation under the INAD.

Spring Chinook juveniles: Dworshak spring Chinook were examined on Jan 23 for fish health monitoring. Very low levels of *Ichthyophthirius* were seen on the skin and gills. Recommendations were to watch for increased flashing and to keep ponds clean. Samples were taken for Bacterial Kidney Disease monitoring by the ELISA test.

Coho juveniles: Monthly monitoring was conducted 31 January 2017. Fish looked good. Bacteriology was taken to monitor for *F. psychrophilum*.

Kooskia NFH

Spring Chinook juveniles: Fish were examined for fish health monitoring at Kooskia on Jan. 25. Fish appeared healthy at this time. Samples were taken for Bacterial Kidney Disease monitoring by the ELISA test.

Nez Perce Tribal Hatchery

Fall Chinook juveniles: Fish were moved from egg trays to nursery tanks the last week of the month.

Spring Chinook juveniles: Yearlings in outside raceways were exhibiting “odd” behavior” of swimming on their sides. Fish were sampled for virus, bacteria and external parasites. Low levels of *Epitheliocystis* were observed in the gills. Laboratory tests are still pending.

Kooskia National Fish Hatchery - Hills

This activity report is implemented by the Tribal Fish Hatchery Manager, Kent Hills. All information in this report was collected and or performed by the hatchery staff during the preceding month.

Under SRBA and the Clearwater Annual Operating Plan, the Tribe, Service and Idaho Fish & Game have agreed to implement other fish production actions related to KNFH mitigation. Reports will include additional information about other species reared, processed and released in relation to KNFH operations.

Kooskia Chinook Brood Year 2015

There are 692,371 fish on station; this month the mortality 593. They have been on creek water average at 33.4 degrees. The fish are an average of 4.70 inches (119mm) long and consumed 469 pounds of fish feed. For the month, fish gains were 476 pounds gaining back a little of the weight they lost in December.

On January 6th we had severe cold temperatures. Sometime during the night or very early morning hours, ponds 2 and 4 had all the water drain down to a couple of inches, and the loss of water caused the thick ice to collapse on to the fish causing an increase in mortality. Possible causes determined that the build-up of ice caused the outflow pipes to be lifted and the water drained down. After the water drained, the pipes fell back into place. When the ponds were found they were starting to fill back up with water. Well five was started to add some well water to our flows and decrease ice in the ponds. In addition all employees worked to break up and remove slabs of ice from the ponds to decrease mortality from falling ice should this event occur again. This happened a second time on January 16 only in pond 2. Cause yet to be figured out.

The Idaho Fish Health Center was at the hatchery the end of the month to examine the fish. The fish had low levels of food in their stomachs and most of the fish had pale livers most likely due to the cold water conditions. The fish had very low levels of Sanguinicola and on the skin they had very low levels of Epistylis. Overall pathology said the fish looked healthy at this time.

Kooskia Chinook Brood Year 2016

We currently have 772,045 sac fry on station. The incubation chiller operated on well water without problems the whole month with temperature at 40.1° F. Fry will be moved to the outside vats starting in February. Feed for the BY16 fish was delivered this month.

Kooskia Adult Trap Operations:

Trap closed all month.

Maintenance & Operations:

Jan 04: Richard Ketola started today as a 60-day temporary maintenance employee.

Jan 05: This morning's low was -7, burrows ponds are freezing over, forecast is for warming in the next few days.

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Credit: KNFH

Temperatures dropped to -7°F on the morning of January 5, ponds were freezing over.



Credit: KNFH

January 7, Kooskia NFH had a low of -3°F. There was water over flowing the Obermeyer weir, and the screen chamber was clear and running smoothly.



Credit: KNFH

Crews put together the tower for the circular tank project. at KNFH.

Kooskia NFH - Hills

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Maintenance & Operations (continued):

- Jan 06: During the morning check, it was determined that burrows pond 2 & 4 lost water, the fish were in about 2 inches of water, water was flowing into the pond, ice had to be broken from the stand pipes to determine why the water had drained. It was determined that both standpipes were in place and water began to fill the ponds.
- Well #5 was turned on but it was determined the valve to the degassing chamber was closed and had frozen. Rick had to thaw the valve so it could be opened before well water was mixed with creek water in an attempt to stem the ice buildup on the ponds. Due to loss of water, pond 2 had a mortality of 219, pond 4 had a mortality of 57. All personnel worked to break and remove ice from the burrows ponds to help prevent further mortality should the water drain again.
- Jan 07: The heater in the break room failed and allowed the pipes to freeze, portable heaters were placed in the building and the pipes thawed, there was no visible damage and the heaters were left until the heaters can be replaced. Had a low of -3 this morning, there was \ water over flowing the Obermeyer weir, and the screen chamber was clear and running smoothly.
- Jan 09: Rick checked out the baseboard heaters in the break room which are now operating properly, it was determined that the adjustment dial stuck. Rick went to Quarters 4 house by the river to repair an electrical plug failure and it was determined that the house also had frozen water lines. Troubleshooting for lack of water was started.
- Jan 10: Construction crews put together the tower for the circular tank project.
- Jan 11: Heaters were moved around to attempt to unfreeze the lines on Quarters 4 again without success. Water jugs were purchased to provide water to the house until the frozen lines could be fixed.
- Jan 13: Heaters moved around again to unfreeze lines at Quarters 4, again without success.
- Jan 16: Pond 2 lost water again, Kent was making rounds and noticed water in pond 2 was about a foot below its normal level and was on the rise. It is unknown why this is occurring.
- Jan 17: Kent and Kenny tested the valves on burrows pond 2 and found that once the valves were turned off, the water remained at a constant level until the valves were turned back on.
- Jan 18: Fisheries Resource Office began pit tagging BY15, 4,000 from Burrows pond 3 and 4,000 fish from Burrows pond 5 will be pit tagged.
- Jan 20: FRO completed the tagging operation.
- Jan 22: Kayla went to NCTC for two weeks for Coldwater Fish Culture Class.
- Jan 23: Rick has been working to free the water to Quarters 4 without success as of today.
- Jan 24: Rick has been working on the incubation chiller to reduce the incubation temperature to slow the growth of BY16.
- Jan 25: A new front door and range hood was installed in Quarters 4.
- Jan 26: Hoses were ran from the water cistern to Quarters 4 in an unsuccessful attempt to get water to that residence.

Kooskia NFH Training and Conferences:

- Jan 22-Feb 3: Kayla attended Coldwater Fish Culture Course CSP 1100 at the National Conservation Training Center in West Virginia.
- Jan 09: Project leaders meeting phone in to Portland.
- Jan 31: Kent to the AOP meeting at the IDFG office in Lewiston.

Information and Education

Dworshak - Jill Olson

Facebook: Reach - 2,337; Engagements - 278 **Website:** Page Loads - 11 Unique - 9; First Time - 6 ; Returning - 3

Visitors: We hosted eleven visitors (8 adults and 3 children) from two states.

Tours: No tours were provided to during the month of January.

Outreach: Participated in a career & study abroad fair at Lewis & Clark State College, January 23 (24 contacts).

Volunteer Hours: Two volunteers contributed 16.5 hours; both volunteers assisted with steelhead spawning.

Kooskia - Kent Hills

Visitors: There were 102 visitors to the hatchery during this month; this figure is compiled by staff. Not many visitors due to cold weather.

Outreach: No outreach activities were conducted in January.

Staff List

Dworshak Fisheries Complex Management:

Steve Rodgers, Dworshak Fisheries Complex Manager

Mark Drobish, Dworshak NFH Manager

Adam Izbicki (FWS) & Jeremy Sommer (NPT)

Dworshak NFH Assistant Hatchery Managers

Mike Tuell, SRBA Coordinator

Scott Koehler, Dworshak NFH Maintenance Supervisor

Doug Nemeth, Project Leader, Idaho Fish and Wildlife Conservation Office

Mike Faler, Aquatic Conservation Lead

Dr. William Conner, Fall Chinook Research Lead

VACANT- Fish Production M&E Lead

Kent Hills, Kooskia NFH Manager

VACANT- Kooskia NFH Maintenance Supervisor

Dworshak NFH Production: Angela Feldmann, Tom Tighe, Rob Bohn, Wayne Hamilton, Mike Bisbee, Tui Moliga, Steve Coomer, Carter Lopez, Jayden Hudson, Steve Jeffers, Jayson Thompson, Aidan Frye, Jeremy Pike, Levi Carson, Dan Peters

Administration: Heather Leopard- Administrative Officer, Brian Devlin- Budget Technician

Dworshak NFH Maintenance:

Terry Weeks, Rick King, Rob Kellar, James Oatman, James Paddelty, Melissa Wright, Kurt McCorkle

Idaho Fish and Wildlife Conservation Office:

Ray Jones, Aaron Garcia, Frank Mullins, Jody Brostrom, Chris Griffith, Mike Murray

Complex Information and Education: Jill Olson

Kooskia NFH: Kenny Simpson, Kayla Warden, Richard Ketola (Maintenance -Temporary)